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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/591,058	12/31/2007	Tadashi Fujii	FUJII10	4631
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EXAMINER				
SLAWSKI, BRIAN R				
ART UNIT		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/591,058

Applicant(s)

FUJII ET AL.

Examiner

BRIAN R. SLAWSKI

Art Unit

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-14, 17 and 18 is/are pending in the application.
- 4a) Of the above claim(s) 7-12, 17 and 18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, and 6 is/are rejected.
- 7) ☒ Claim(s) 3, 13 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ ~~Notice of Informal Patent Application~~
- 6) ☐ Other: _____

**PROCESS FOR PRODUCING UNSTRETCHED FILM, PROCESS FOR PRODUCING
RESIN-COATED METAL SHEET, AND APPARATUS FOR PRODUCING
UNSTRETCHED FILM**

Detailed Action

1. Applicant's request for continued examination filed on February 12, 2010, was received. Claims 1-4, 6, 13, and 14 were amended.
2. The text of those sections of Title 35, U.S. Code, not included in this Action can be found in the Office Action issued on April 13, 2009.

Claim Rejections—35 USC §112

3. The rejections of claim 2 and 3 under 35 U.S.C. 112, second paragraph, are withdrawn because Applicant has amended these claims to provide antecedent basis for all terms.
4. The rejection of claim 1 under 35 U.S.C. 112, first paragraph, is withdrawn because Applicant has amended this claim to recite that the resins differ in viscosity by at most 3000 poises at a shear rate of from 20 to 500 sec⁻¹, consistent with the specification.

Claim Rejections—35 USC §103

5. The rejections of claims 1-4, 13, and 14 under 35 U.S.C. 103(a) as being unpatentable over Kegasawa et al. (US 2004/0108621; "Kegasawa '621") in view of Kegasawa et al. (US 2002/0112813; "Kegasawa '813") are withdrawn because claim 1 has been amended.

6. Claims 1, 2, and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peiffer et al. (US 5,716,570) in view of Kegasawa et al. (US 2002/0112813; "Kegasawa '813").

Regarding claim 1, Peiffer et al. teach a process for producing a film comprising heating and melting thermoplastic propylene resins and ejecting and extruding them through a T-die onto a casting roll. (Peiffer et al. label the resin cast in the center of the film as 'B' and the resin cast on the edges of the film as 'A,' opposite to the naming convention used by Applicant. For the sake of clarity, the examiner will refer to the central resin as '1' and the edge resin as '2.')

In Peiffer et al., a thermoplastic resin 1 and another thermoplastic resin 2 are separately heated and melted, and the resin 1 is led to the central portion of an extrusion T-die 8 while the other resin 2 is led to both edges of this die. The two resins are extruded onto the casting roll ("take-off roll") such that the other resin 2 coexists on both sides of the resin 1 to form an unstretched film, where the width of the other resin 2 is substantially uniform in the cross direction of the unstretched film (Abstract; Fig. 3A; col. 2, LL. 38-47; col. 6, LL. 62-67; col. 7, LL. 1-5, LL. 16-26, LL. 37-41). (While Peiffer et al. teach stretching the extruded film after it has solidified, the process of Peiffer et al. nonetheless produces a solid unstretched film ["prefilm"] before this step, thereby reading on claim 1 [col. 7, LL. 37-44]. Even if the claims were to specify that the film is not stretched at any stage, it would have been obvious to one of ordinary skill in the art to omit the post-extrusion stretching taught by Peiffer et al. if the properties of a biaxially oriented film were unnecessary in the

intended application.) Thereafter the other thermoplastic resin 2 is cut off (Abstract; col. 8, LL. 18-29).

Peiffer et al. do not specifically teach the melt viscosities of the resins. However, Kegasawa '813 teach a similar process in which first and second thermoplastic resins 11A and 11B are fed to a die 12 and extruded into a film in which the second resin 11B flanks the central first resin 11A on both sides (Fig. 1, 2, 3a; [0038-0039]). Kegasawa '813 teach that the second resin is preferably chosen to have a viscosity somewhat more than that of the central first resin, in order to suppress neck-in (where the extruded film narrows across its width and thickens on its lateral edges) and film shake (where the film's width fluctuates during extrusion), without the resins' viscosities differing so much as to cause film separation (Abstract; [0004-0005, 0015-0016, 0044]). It would have been obvious to one of ordinary skill in the art to formulate the central resin 1 of Peiffer et al. to have viscosity below that of the edge resin 2 to discourage neck-in and film shake, while keeping the resins' viscosities sufficiently similar (e.g., within 3000 poises of each other at a shear rate from 20 to 500 sec^{-1}) in order to avoid film separation, in light of the teachings of Kegasawa '813.

Regarding claim 2, Peiffer et al. teach that the resin 1 and the other resin 2 are heated and melted separately in different extruders ('EXTR. 1' and 'EXTR. 2'), each fed to a resin melt supply duct connected to each respective extruder, then fed to a feed block 6, where the other resin 2's supply duct is connected to holes formed on both sides of the lower part of the resin 1's supply duct. Thereafter shapes of the resins 1 and 2 are widened through a manifold connected to the feed block 6 and extruded out

through a die lip of the extrusion T-die 8 onto a casting roll such that the other resin 2 coexists on both sides of the resin 1 (Fig. 3a; col. 6, LL. 62-67; col. 7, LL. 1-5, LL. 16-26, LL. 37-41).

Regarding claim 4, Kegasawa '813 explain that extruded films tend to thicken at their lateral edges by the neck-in phenomenon [0004], while Applicant similarly discloses in paragraph [0002] of the instant specification that this edge-thickening is an inherent result of extruding films of highly viscous thermoplastic resin through a T-die. Hence the edge portions formed by resin 2 in Peiffer et al. must intrinsically be thicker than the center portion formed by resin 1.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Peiffer et al. and Kegasawa '813 as applied to claims 1, 2, and 4 above, and further in view of Thompson (US 4,272,312).

Peiffer et al. do not specifically teach using a colored resin for the thermoplastic edge resin 2. However, Thompson also teaches a process for making an extruded thermoplastic film by heating and melting first and second thermoplastic resins in separate extruders 12 and 14, feeding the resins to an extrusion T-die 16, extruding the resins onto a casting roll 42 so that the second resin coexists on both sides of the first resin, and cutting off the film's thickened edge portions 30 formed from the second resin (Fig. 1-3; col. 3, L. 14-22, L. 27-32; col. 4, L. 26-59; col. 5, L. 10-14). Thompson teaches that the second resin can be provided with, e.g., a blue die so that the edge portion to be removed can be readily visualized (col. 5, L. 63-68; col. 6, L. 1-3). Hence

it would have been obvious to one of ordinary skill in the art to color the thermoplastic edge resin 2 of Peiffer et al. in order to judge where the edge portions of resin 2 should be cut off.

Allowable Subject Matter

8. Claims 3, 13, and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. These claims would be allowable because Peiffer et al. do not teach rectangular melt supply ducts for feeding the resins 1 and 2 to the feed block 6, instead showing that a film having straight edges to both resins 1 and 2 can be formed using conventional circular melt supply ducts (Fig. 3a), such that one of ordinary skill in the art would not have been motivated to substitute custom rectangular feed ducts for those taught by Peiffer et al.

Response to Arguments

9. Applicant's arguments with respect to claims 1-4, 6, 13, and 14 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRIAN R. SLAWSKI whose telephone number is

(571)270-3855. The examiner can normally be reached on Monday to Thursday, 7:30 a.m. to 5:00 p.m. ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino, can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Brian R. Slawski/
Examiner, Art Unit 1791

B.R.S.

/Richard Crispino/
Supervisory Patent Examiner, Art Unit 1791